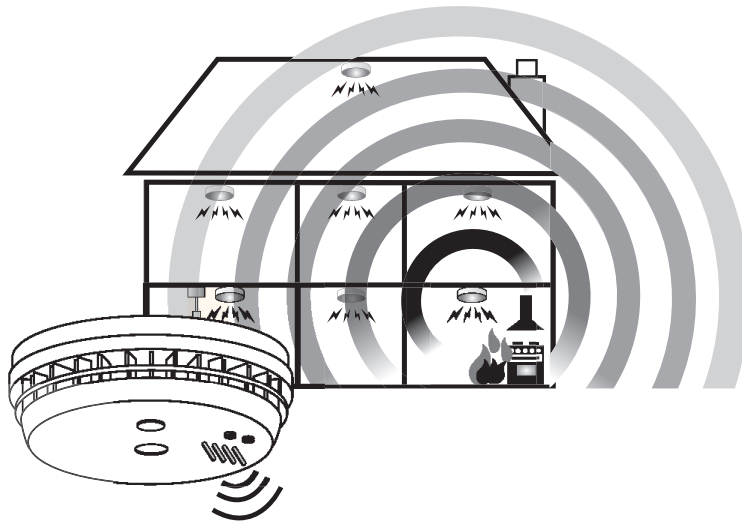




## SMOKE ALARM



### Instruction Leaflet

Contains vital information on unit operation and installation. Read and retain carefully. If you are just installing the unit, this leaflet **MUST** be given to the householder.

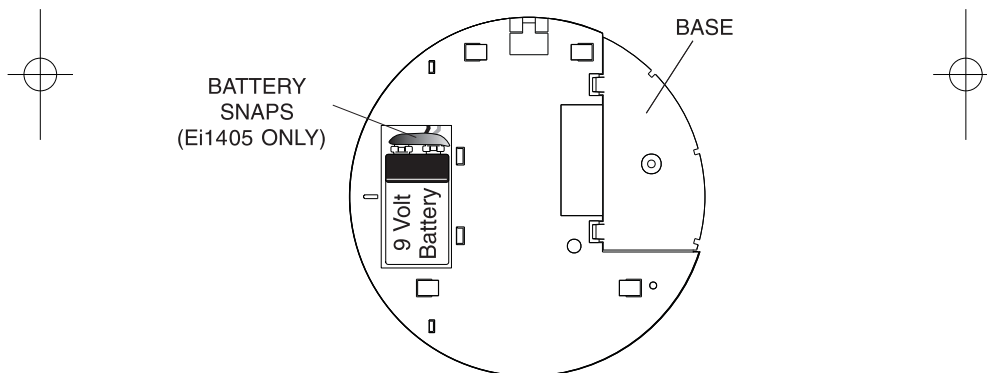
Models:	10 Year Lithium Battery	Replaceable 9V Battery
	Ei 405TY	Ei 405

P/N B15026 Rev 2

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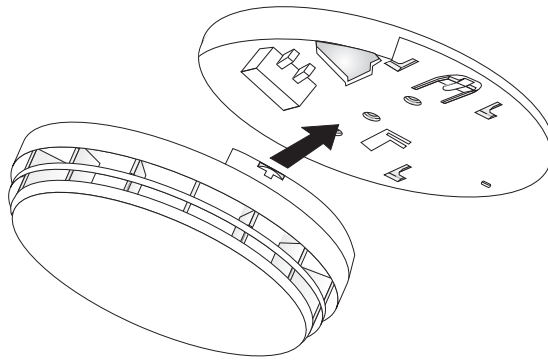
## 1. READ THIS FIRST

A Smoke Alarm is an early warning device. Used correctly it can give you and your family valuable extra time to escape. When the alarm sounds, immediately evacuate the premises before beginning any investigation.



**Figure 1a :** Attaching battery to the battery snap on Ei405

1. Install the mounting plate in the centre of the ceiling (if possible) using the screws supplied (see section 5.0)
2. **Connect battery:**
  - Model Ei405 - connect battery snaps firmly (see figure 1a). Press the test button and horn should sound.
  - Model Ei405TY – sliding the unit on to the mounting plate will connect the batteries (see figure 1b). Press the test button and horn should sound.
3. When the battery is first connected the Alarm may sound for 2-3 seconds and/or the red light may flash quickly for 10 seconds - this is normal.
4. The wireless interconnect will operate as received once the batteries are connected. We strongly recommend house coding your alarms to prevent interference from neighbouring systems (see section 6)



**Figure 1b:** Attaching smoke alarm to the mounting plate

5. Test weekly.
6. Model Ei405 - When the Alarm beeps and the red light flashes at the same time replace the battery (see figure 7 to remove unit from the mounting plate).
7. Model Ei405TY - When the Alarm beeps and the red light flashes at the same time or the blue light flashes every 9 seconds it indicates the battery is depleted and the entire alarm must be replaced. This normally occurs after 10 years has elapsed (see figure 7 to remove unit from the mounting plate).
8. Proper protection usually requires more than one Smoke Alarm.
9. If the Alarm beeps without the red light flashing at the same time then clean the unit, as this is the automatic test feature indicating the chamber is degraded.
10. A Smoke Alarm does not prevent fires.
11. Plan your escape route.
12. If you have any doubt or query about Smoke Alarms consult the supplier or your local Fire Brigade.

## 2. INTRODUCTION

Congratulations on purchasing Ei405 RadioLINK Smoke Alarms. You can easily install these alarms throughout the house in closed rooms, corridors and in the attic for the fastest response to developing fires.

Closed doors are great for slowing down the spread of fire, but unfortunately they can also greatly slow down the response time of alarms, as they block the smoke getting to them. Without interconnection, closed doors also greatly reduce the alarm sound level throughout the house, so even though the fire is detected early, the alarm may not be heard.

The Ei405 RadioLINK Smoke Alarms offer the comfort of interconnection without the hassle of installing the interconnect wires. The wireless interconnect helps ensure the alarm will be heard everywhere - including the bedrooms.

The wireless interconnect will operate as received once the batteries are connected. To check operation, first connect all the batteries (see section 1 para 2.) and then hold down the test button on the first unit until the blue light comes on continuously for 3.5 seconds. All the other smoke alarms will respond within 5 seconds. If there is any possibility of a neighbour having a similar system, **you should house code your units** so your system will not cause his/hers to alarm or vice versa. This is easily done and only takes a few minutes- (see section 6.0).

A remote control Ei410 is available to allow you to test and hush the alarms, without having to reach up to the smoke alarms on high ceilings. The remote control also has a "Locate" button to identify the unit causing the alarm - this is excellent, particularly at night, as it rapidly identifies where the fire is located. This is ideal for larger systems, as the disturbance in the house can be kept to a minimum e.g. no need to enter all the bedrooms to check to see if the red light is flashing rapidly (indicates that the unit is detecting smoke).

### 3. LOCATING YOUR SMOKE ALARMS

Sufficient smoke must enter your Smoke Alarm before it will respond. Your Smoke Alarm needs to be within 10 paces (7.5 metres) of the fire to respond quickly. The smoke alarms need to be in positions where they can be heard throughout your home, so they can wake you and your family in time for everyone to escape. A single Smoke Alarm will give some protection if it is properly installed, but most homes will require two or more to ensure that a reliable early warning is given. For recommended protection you should put individual Smoke Alarms in all the rooms (apart from the kitchen) where fire is most likely to break out.

Your first Smoke Alarm should be located between the sleeping area and the most likely sources of fire (living room or kitchen for example). But it should not be more than 10 paces (7.5 metres) from the door to any room where a fire might start and block your escape from the house.

#### 3.1 Single Storey Dwelling.

If your Home is on one level (a bungalow or mobile home for example) you should put your first Smoke Alarm in a corridor or hallway between the sleeping and living areas. Place it as near to the living area as possible, but make sure you can hear it loudly enough to wake you in the bedroom. (for example, see figure 2).

If your bungalow is very large and the corridor or hallway is more than say 20 paces (15 metres) long, one Smoke Alarm will not be sufficient. This is because no matter where it is located it will be more than 7.5 metres from potential fires.

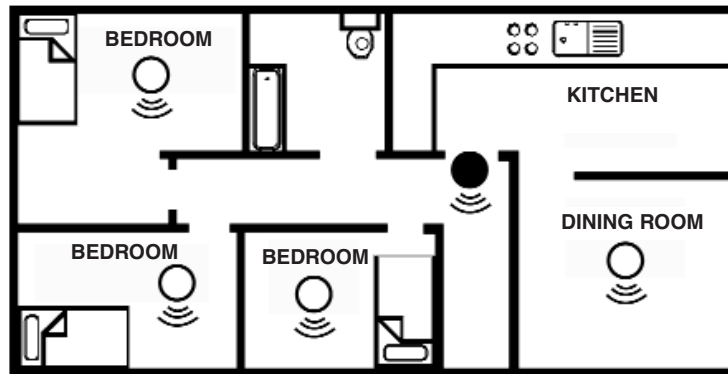
## Recommended locations, Figures 2, 3, & 4

for minimum protection

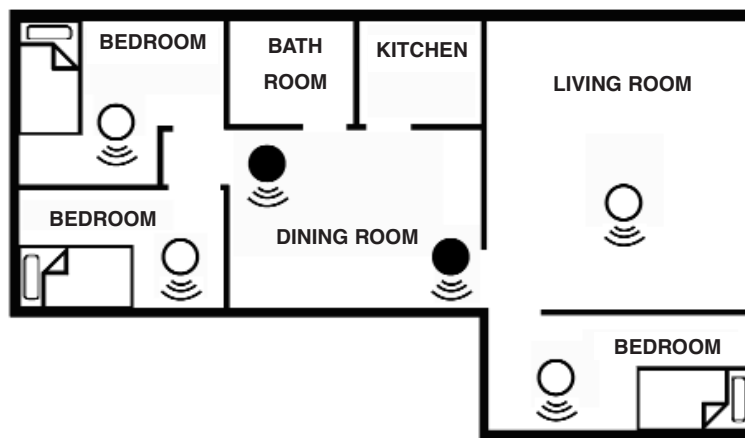
- • on each storey
- • in each sleeping area
- • every 7.5 metres of hallways & rooms
- • within 3 metres of all bedroom doors
- • all units interconnected

for recommended protection

- in addition
- • in every room (except bathrooms and kitchens)



**Figure 2:** Single storey dwelling



**Figure 3:** Single storey dwelling with separate sleeping areas

In houses with more than one sleeping area, Smoke Alarms should be placed between each sleeping area and the living area (for example, see figure 3).

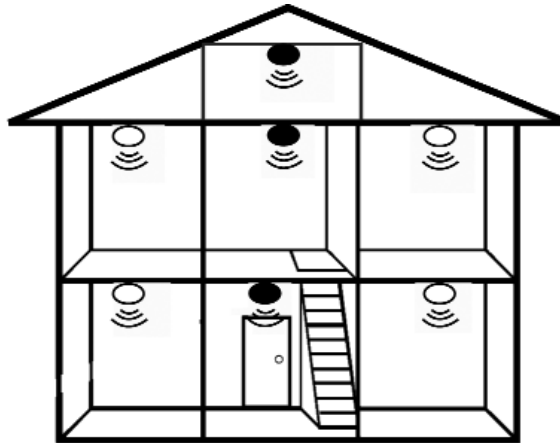
### 3.2 Multi Storey Dwellings

If your home has more than one floor, at least one alarm should be fitted on each level (see figure 4). The Ei405/405TY RadioLINK Smoke Alarms are ideal in this situation as they are automatically interconnected without wiring.

### 3.3 Recommended Protection

Fire authorities recommend you put individual Smoke Alarms in or near all the rooms where fire is most likely to break out

(apart from the locations to avoid, mentioned below). The living room is the most likely place for a fire to start at night, followed by the kitchen and then the dining room. You should also consider putting Smoke Alarms in any bedrooms where fires might occur, for instance, where there is an electrical appliance such as an electric blanket or heater, or where the occupant is a smoker. You could also consider putting Smoke Alarms in any rooms where the occupant is unable to respond very well to a fire starting in the room, such as an elderly or sick person or a very young child.



**Figure 4:** Multi Storey Dwelling

### 3.4 Checking you can hear your Smoke Alarms

With the Smoke Alarms sounding in their intended locations, check you are able to hear them in each bedroom with the door closed, above the sound of your Audio/TV Systems. The Audio/TV systems should be set to a reasonably loud conversation level. If you can't hear it over your radio the chances are that it wouldn't wake you. These RadioLINK Smoke Alarms will help to ensure the alarm will be heard through-out the house.

## 4. POSITIONING YOUR SMOKE ALARM

### 4.1 On a ceiling

Hot smoke rises and spreads out, so a central ceiling position is the recommended location. The air is "dead" and does not move in corners, therefore Smoke Alarms must be mounted away from corners. Place the unit at least 0.30m from any light fitting or decorative object which might obstruct smoke entering the Smoke Alarm. Keep at least 0.30m away from walls and corners (see figure 5).

### 4.2 Wall Mounting

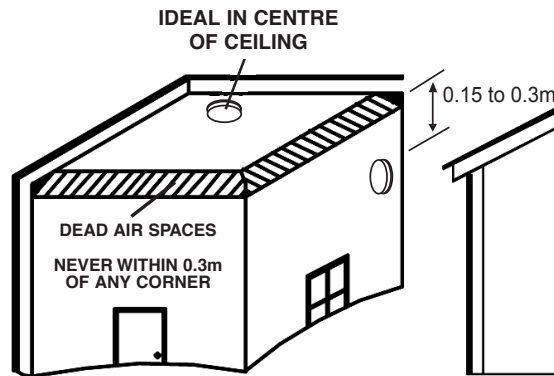
When a ceiling position is not possible (for example on a ceiling having exposed beams or joists, or built-in radiant heating) put the top edge of your Smoke Alarm between 0.15m and

0.30m below the ceiling. Keep at least 0.30m from corners (see figure 5).

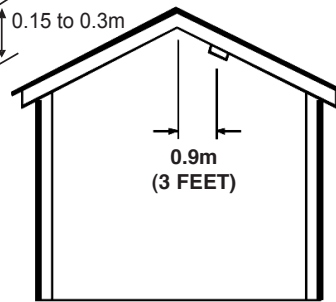
### 4.3 On a sloping Ceiling

In areas with sloping or peaked ceilings install your Smoke Alarm 0.90m from the highest point measured horizontally (see figure 6), because “dead air” at the apex may prevent smoke from reaching the unit.

**Figure 5**



**Figure 6**



### 4.4 Locations to Avoid

Don't place your Smoke Alarm in any of the following areas:

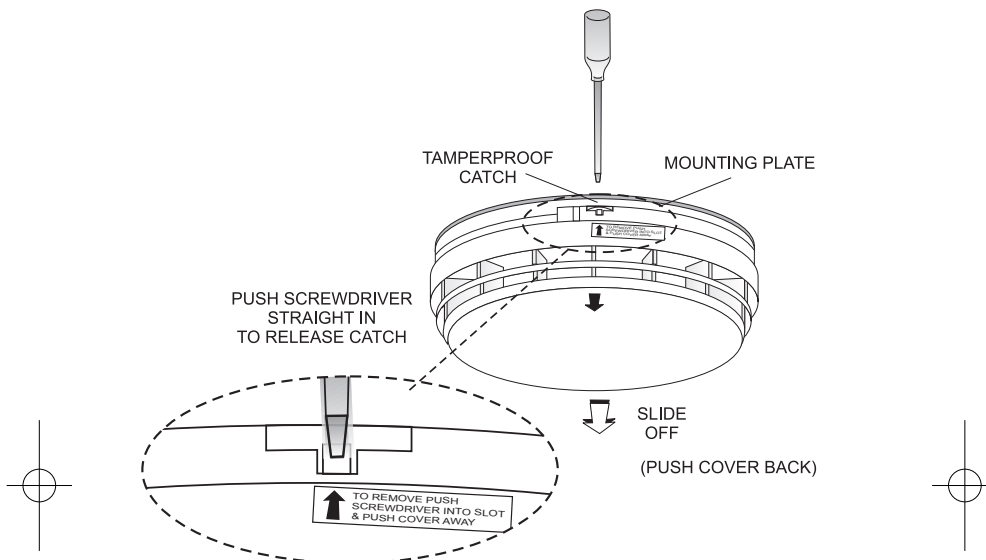
- Bathrooms, kitchen, shower rooms, garages or other rooms where the smoke alarm may be triggered by steam, condensation, normal smoke or fumes.
- Attics or other places where extremes of temperature may occur (below 4°C or above 40°C).
- Near a decorative object, door, light fitting, window molding etc., that may prevent smoke from entering the Smoke Alarm.
- Surfaces that are normally warmer or colder than the rest of the room (for example attic hatches, uninsulated exterior walls etc). Temperature differences might stop smoke from reaching the unit.
- Next to or directly above heaters or air conditioning vents, windows, wall vents etc. that can change the direction of air-flow.
- In very high or awkward areas where it may be difficult to reach the alarm for testing or battery replacement on Ei405 model.
- Locate unit at least 1.5m away from fluorescent light fittings as electrical “noise” and/or flickering may affect the unit.
- Locate away from very dusty or dirty areas as dust build-up in the chamber can make unit too sensitive and prone to alarm. It can also block the insect screen mesh and prevent smoke from entering the chamber.
- Do not locate in insect infested areas. Small insects getting in to the chamber can cause intermittent alarms.

## 5. INSTALLING YOUR SMOKE ALARMS

We recommend that up to 12 smoke alarms can be interconnected with the radio link. **We strongly recommend that all alarms are house coded during the installation** (see section 6).

### 5.1 Installation Procedure

1. Select a location complying with the above advice.
2. Remove the mounting plate from the Smoke Alarm. If it has been latched, release the tamperproof catch with a small screwdriver, as shown in figure 7, and slide the alarm from the mounting plate.



**Figure 7:** Removing the smoke alarm from the mounting plate

3. Place the base on the ceiling/wall exactly where you want to mount the unit. With a pencil, mark the location of the two screw holes.
4. It may be necessary to rotate/resite units to maximise the radio link signals (see section 5.2). Consequently we advise to use only one screw initially. Taking care to avoid any electrical wiring in the ceiling, drill one hole through the centre of one of the marked locations. Push the plastic screw anchors provided into the drilled hole. Screw in firmly. The second screw may then be used to securely fix the alarm in place after the radio link interconnection is verified.
5. Connect the battery to the battery snaps as shown in figure 1a (model Ei405 only).
6. Carefully line up the unit on the base and slide on as shown in figure 1b. (This connects the batteries in the Ei405TY Smoke Alarm).
7. Press the test button on each alarm to ensure that the smoke alarm works (see figure 9).
8. Check the radio link interconnection by holding the test but-



ton down until the blue light has come on continuously – this indicates that the alarm is now transmitting radio link signals. You should now be able to hear the other alarm(s) in the distance. If you do not hear the other alarm(s) then you may need to rotate/resite the alarm (see section 5.2 below).

9. The units, as received, will transmit and receive the default RF signal. However, to avoid other neighbouring systems interfering with your alarms, we recommend that you “house code” your alarms.

Install all the other alarms similarly.

### **5.2 If Radio Link is not working**

It is imperative that all smoke alarms in your system communicate with each other. The number of walls, ceilings and metal objects in the radio link signal path reduces the strength of the radio link signals between the smoke alarms. Accordingly, one or more smoke alarms may have difficulties in communicating to all the other units in the system.

If, when checking the radio link interconnection, some of the alarms do not respond to the button test, then you will need to either:

(i) convert one of the central units into a “Repeater” (see section 6.2)

or

(ii) rotate / re-locate the units. There are a number of reasons why the radio link signals may not reach all the smoke alarms in your system (see section 10.2 on “Limitations of Radio Frequency Signals”). However, you should try re-locating the smoke alarms (e.g. move them away from metal surfaces or wiring) or rotating the smoke alarms.

Rotating and/or re-locating the smoke alarms may move them out of the range of existing smoke alarms even though they may have already been house coded correctly in the system. It is important therefore to check that all detectors are communicating in their final installed positions. If smoke alarms are rotated and/or resited, we would recommend that all the smoke alarms are returned to the factory settings and then house coded again in their final positions (see section 6.0). The radio link interconnection should then be re-checked again.

## **6. HOUSE CODING YOUR ALARMS**

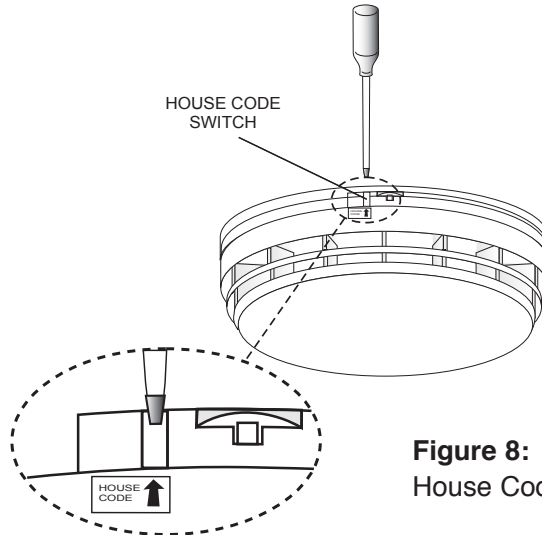
House coding your alarms will prevent neighbouring alarm systems from setting off your own alarms and vice versa. The house coding process changes the radio signal from the common factory signal to a unique radio code for each unit.

### **6.1 House Code Procedure**

Ensure that the battery is connected to all alarms before

beginning the house code procedure

1. Insert a small screwdriver into the vertical slot in the base to turn on the house code switch (see figure 8). Hold until the blue light comes on and then release. The blue light will then flash rapidly for about 1 second to indicate the unit is now in the house code mode.



**Figure 8:**  
House Code Switch

2. Similarly press and hold the house code switch on the second installed unit until its blue light comes on and then release. Put all the remaining alarms into the house code mode in the same manner.

3. When in the house code mode, the blue light will flash a number of times every 5 seconds to indicate:

- (a) the alarm is in house code mode and
- (b) the number of units that have been identified as being part of your system.

For example with 3 alarms in your system, you should see 3 blue light flashes every 5 seconds, with 4 alarms in your system you should see 4 blue light flashes and so on. You will also see a light flash for a remote control keyfob (Ei410) if this is also placed in house code mode at this time. The maximum number of light flashes that can be seen is 12, even though more alarms may be house coded in your system.

(Please note that during the house coding process one alarm may sound for 1 minute.)

Check that the number of blue light flashes corresponds to the number of units in the system. If not see section 5.2.

4. The units will stay in house code mode for 15 minutes and then reset automatically. Alternatively they can be taken out of house code mode quickly by pressing and holding the house code switch until the blue light comes on again. The blue light will go out immediately when the switch is released, indicating

that the alarm is no longer in house code mode.

(Note: The RadioLINK Alarms can be returned to the originally factory settings by pressing and holding the house code switch on until the blue light flashes slowly. This will take about 6 seconds. This cancels the house code mode. It also cancels the repeater function) (see section 6.2).

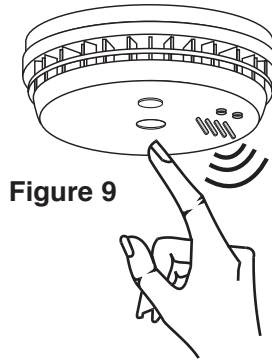


Figure 9

Additional RadioLINK Smoke Alarms (and/or a Remote Control Ei 410) can be added to the system at any time. Simply put all the units, the additional units and those previously installed, into the house code mode at the same time.

## 6.2 Making an Ei405 or Ei405TY Repeater Unit

In the normal installations (single storey and two-storey houses), the signal range should be sufficient to activate the alarms. However, in certain circumstances some alarms may not receive the radio link signals and then it will be necessary to set up an alarm as a **repeater smoke alarm**. The function of the repeater smoke alarm is to receive and re-broadcast the signals, so effectively boosting the signal range throughout the installation. We recommend that when three or more alarms are installed a centrally positioned unit is converted into a repeater unit.

### To make a repeater unit:

- (i) Choose a centrally positioned Smoke Alarm
- (ii) Press and hold the test button until the alarm sounds and the blue light comes on, then immediately (while the light is on) press and hold the House Code switch until the blue light flashes slowly. (The blue light will flash 15 times to indicate that the Smoke Alarm is in Repeater Mode).

Note: It is recommended that only one Smoke Alarm be designated as a repeater unit in any house installation. More than one repeater unit in any single system may cause signal interference and could result in units not communicating with each other.

## 7. TESTING AND MAINTAINING YOUR SMOKE ALARMS

Your smoke alarm is a life saving device and should be regularly checked. Regularly check that the red light on the smoke alarm flashes once a minute to show the units are powered. Replace the smoke alarm if the flashing stops.

### 7.1 Manually Testing your Smoke Alarm

It is recommended that you test your Smoke Alarm at least

weekly to be sure the units are working. It will also help you and your family to become familiar with the sound of the alarms.

When you press the test button it simulates the effect of smoke during a real fire. So, there is no need to test the Alarm with smoke.

Press and hold the Test Button until the alarm sounds (see figure 9). The alarm will stop sounding shortly after the button is released. If you press and hold the button longer, so that the blue light also comes on, you will hear the radio link interconnected alarms sounding after the local alarm stops.

**WARNING: Do not test with flame.**

This can set fire to the alarm and damage the house. We do not recommend testing with smoke as the results can be misleading unless special apparatus is used.

## **7.2 Checking the Wireless Interconnect**

We recommend that the interconnect is tested weekly as follows:

1. Press and hold the test button on the first alarm for 5 seconds (count up to 10).

2. The horn will sound and then the blue light will come on continuously for 3.5 seconds. (This indicates that the unit is transmitting a RadioLINK Alarm signal to the other units). Release the test button. The local alarm will cease and you should then be able to hear the other alarms sounding in the distance.

3. Repeat this procedure for all the other alarms.

## **7.3 Test/Hush Button to Control Nuisance Alarms**

These smoke alarms have a combined test/hush button to help you control nuisance/false alarms.

If, when the alarm goes off, there is no sign of smoke, heat or noise to indicate that there is a fire, you should first get your family into a safe place, before you start investigating.

Check the house carefully in case there is a small fire smouldering somewhere.

Check whether there is some source of smoke or fumes, for example cooking fumes being drawn past the Smoke Alarm by an extractor.

If there are frequent nuisance/false alarms it may be necessary to re-locate the device away from the source of the fumes.

**If you installed the smoke alarms as received and did not house code them, you may be receiving an alarm signal**

**from a neighbouring system. This can be easily rectified by “house coding” your alarms (see section 6).**

1. To cancel a false alarm, press the test/hush button. The alarm will automatically switch to a reduced sensitivity condition. This condition allows unwanted alarms to be silenced for a period of approximately 10 minutes. The red light will flash every 10 seconds (instead of 40 seconds) to let you know the unit has been silenced. It can also be silenced using the Hush Button on the optional remote control Ei 410 (provided the smoke alarm is sensing smoke itself).

2. The unit will reset to normal sensitivity at the end of the silenced period. If additional silenced time is required, simply push the test/hush button again.

3. If the cause of the alarm is not clear, it should be assumed that it is due to an actual fire and the dwelling should be evacuated immediately.

If kitchen usage/layout is such that there are an unacceptable level of nuisance alarms, re-locate the Smoke Alarm further away where it will be less affected by cooking fumes etc.

#### **7.4 Cleaning your Smoke Alarm**

Clean your Smoke Alarm regularly. Use a soft bristle brush or the brush attachment of your vacuum cleaner to remove dust and cobwebs from the sides and cover slots where the smoke enters. Keep cover closed while cleaning. Do not vacuum or brush inside the Smoke Alarm.

#### **WARNING: Do not paint your Smoke Alarm.**

Other than the maintenance and cleaning described in this leaflet, no other customer servicing of this product is required. Repairs, when needed, must be performed by the manufacturer.

#### **7.5 Automatic Self-Test**

The smoke chamber automatically tests itself every 40 seconds. If the chamber is degraded it will beep without the red light flashing at the same time. If this happens clean the unit. If the beeping persists and the beep does not coincide with a red light flash, return the unit for service (see section 11 “Getting your Smoke Alarm Serviced”).

#### **7.6 Dust & Insect Contamination**

All Smoke Alarms and particularly the optical (photoelectric) type are prone to dust and insect ingress which can cause false alarms.

The latest design, materials and manufacturing techniques have been used in the construction of our Alarms to minimise the effects of contamination. However it is impossible to completely eliminate the effect of dust and insect contamination, and therefore, to prolong the life of the Smoke Alarm you must

ensure that it is kept clean so that excess dust does not build up. Any insects or cobwebs in the vicinity of the Smoke Alarm should be promptly removed.

In certain circumstances even with regular cleaning, contamination can build up in the smoke sensing chamber causing the alarm to sound. If this happens the alarm must be returned for servicing or replacement. Contamination is beyond our control, it is totally unpredictable and is considered normal wear and tear. For this reason, contamination is not covered by the guarantee and a charge is made for all such servicing work.

### 7.7 Replacing the Battery (Model Ei 405 only)

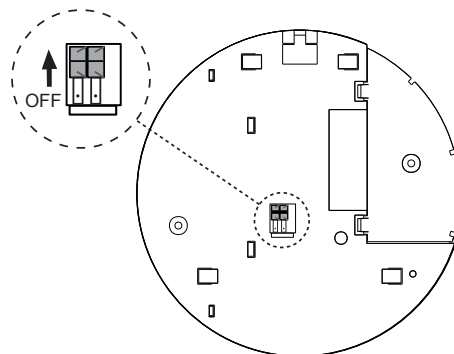
A fresh Alkaline Battery should last for over a year. When the battery power is low and replacement is necessary, the Alarm will “beep” and the red light will flash at the same time about once per minute for at least 30 days. The battery must then be replaced. Also, replace the battery if the alarm does not sound when the Test Button is pressed. For maximum reliability, replace the battery at least once a year (see figure 7 for how to remove unit from the mounting plate). When you replace the battery you must press the test button to check that the alarm is functioning okay.

### 7.8 End of life

The entire Smoke Alarm must be replaced if:-

- (i) The unit is installed for over 10 years (check the replacement year marked on the side of the unit).
- (ii) Low Battery beeps (Model Ei 405TY only)  
The unit is giving a short beep every 40 seconds and the red light flashes at the same time for longer than 1 hour. (If the unit beeps without the red light flashing at the same time see section 7.4 “Cleaning your Smoke Alarm”).
- (iii) The blue light flashes every 9 seconds (Model Ei 405TY only)
- (iv) The unit fails to sound the horn loudly when the test button is pressed.

Before the Smoke Alarm is discarded, remove from the mounting plate (see figure 7). The beeps can then be stopped



**Figure 10:** Switching off the battery switch on Ei405TY only

on Model Ei405TY by sliding the switches on the base of the unit to the off position (see figure 10). With the Ei405 model just disconnect the battery.

Do not put the Smoke Alarm into a fire.

## 8. TROUBLESHOOTING YOUR ALARMS

### 8.1 Alarms sounds for no apparent reason

- House code your alarms (see section 6). If the alarms are in the default factory settings, neighbouring units may cause them to alarm.
- Check for fumes, steam, etc. from kitchen or bathroom. Paint and other fumes can cause nuisance alarms.
- Check for any sign of contamination such as cobwebs or dust. Clean the alarm as described in section 7.4 if necessary.
- Press the test/hush button on the unit causing the alarm (this can be identified as the alarm with the red light flashing rapidly) – this will silence the smoke alarm for 10 minutes and also silence all other smoke alarms in the system.
- If you have a remote control keyfob (Ei410), press the locate button to identify the source of the alarm. This alarm(s) should then be checked for any faults.

### 8.2 The alarm fails to sound when the test button is pressed

- Check the age of the unit - see the “replace by” label on base of unit.
- Check the battery snaps are firmly connected on the Ei405 model (see figure 1a).
- On the Ei405TY model ensure the unit is pushed fully home on the mounting plate, as this connects the battery. If necessary, the unit should be removed from the mounting plate and the battery switch moved to the “ON” position (see figure 7 and figure 10).

### 8.3 The alarms sound but the wireless interconnection does not work

There are certain limitations on radio frequency signals (see section 10.2) and so, some alarms may not sound when the test button of a smoke alarm and/or a remote control keyfob (Ei410) is pressed. Then;

- Ensure you have held the test button down until the blue light has come on continuously (this could take up to 5 seconds).
- House code all smoke alarms as described in section 6.
- Convert a centrally located smoke alarm into a “repeater” unit – this effectively boosts the signal strength between the units (see section 6.2).



- Rotate and/or resite the units – the signal strength may not be sufficient due to the distance and/or the number of walls/ceilings between the units (see section 5.2).

## 9. FIRE SAFETY ADVICE

When using household protective devices, basic safety precautions should always be followed, including those listed below

- Please read all instructions.
- Rehearse emergency escape plans so everyone at home knows what to do in case the alarm sounds.
- Constant exposure to high or freezing temperatures, high humidity or a high level of nuisance alarms may reduce the life of the battery.
- Nuisance alarms can be quickly silenced by fanning vigorously with a newspaper or similar to remove the smoke or press the test / hush button.
- Do not attempt to remove, recharge or burn the battery, as it may explode.
- If it is necessary to remove the battery for separate disposal, handle carefully to avoid possible eye damage or skin irritation if battery has leaked or corroded.
- To maintain sensitivity to smoke, do not paint or cover smoke alarm in any manner; do not permit any accumulation of cobwebs, dust or grease.
- If unit has been damaged in any way or does not function properly, do not attempt a repair. Return Smoke Alarm (see - Getting your Smoke Alarm Serviced).
- This appliance is intended ONLY for premises having a residential type environment.
- This is not a portable product. It must be mounted following the instructions in this instruction leaflet.
- Smoke Alarms are not a substitute for insurance. The supplier or manufacturer is not your insurer.

### 9.1 FIRE SAFETY HINTS

Store petrol and other flammable materials in proper containers.

Discard oily or flammable rags.

Always use a metal fireplace screen and have chimneys cleaned regularly.

Replace worn or damaged sockets, switches, home wiring and cracked or frayed electrical cords and plugs.

Do not overload electrical circuits.

Keep matches away from children.



Never smoke in bed. In rooms where you do smoke, always check under cushions for smouldering cigarettes and ashes.

Service central heating systems regularly.

Be sure all electrical appliances and tools have a recognised approval label.

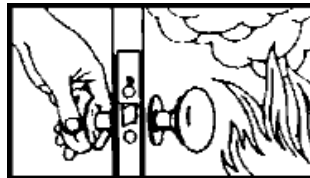
This device cannot protect all persons at all times. It may not protect against the three most common causes of fatal fires:

1. Smoking in bed.
2. Leaving children at home alone.
3. Cleaning with flammable liquids, such as petrol.

Further information can be obtained from the Fire Brigade.

## **9.2. PLANNING YOUR ESCAPE ROUTE FOR WHEN THE ALARM GOES OFF**

1. Check room doors for heat or smoke. Do not open a hot door. Use an alternate escape route. Close doors behind you as you leave.



2. If smoke is heavy, crawl out, staying close to floor. Take short breaths, if possible, through a wet cloth or hold your breath. More people die from smoke inhalation than from flames.



3. Get out as fast as you can. Do not stop for packing. Have a pre-arranged meeting place outside for all family members. Check everybody is there.



4. Call the Fire Brigade from a neighbour's house or mobile phone. Remember to give your name and address.



5. NEVER re-enter a burning house.



## 10. SMOKE ALARM & RF LIMITATIONS

### 10.1 Limitations of Smoke Alarms

Smoke Alarms have significantly helped to reduce the number of fire fatalities in countries where they are widely installed. However independent authorities have stated that they may be ineffective in some circumstances. There are a number of reasons for this:

- Smoke Alarms will not work if the batteries are depleted or if they are not connected. Test regularly and replace the entire unit when it fails to operate.
- Smoke Alarms will not detect fire if sufficient smoke does not reach the alarm. Smoke may be prevented from reaching the Alarm if the fire is too far away, for example, if the fire is on another floor, behind a closed door, in a chimney, in a wall cavity, or if the prevailing air draughts carry the smoke away. Installing smoke alarms on both sides of closed doors and installing more than one smoke alarm as recommended in this leaflet very significantly improve the probability of early detection.
- The Smoke Alarm may not be heard.
- Radio link may not work due to interference or the signal being blocked by furniture, renovations etc.
- A smoke alarm may not wake a person who has taken drugs or alcohol.
- Smoke Alarms may not detect every type of fire to give sufficient early warning. They are particularly ineffective with: fires caused by smoking in bed, escaping gas, violent explosions, poor storage of flammable rags and/or liquids, (for example petrol, paint, spirits etc), overloaded electrical circuits, arson, children playing with matches.
- Smoke Alarms don't last indefinitely. The manufacturer recommends replacement after 10 years as a precaution
- Use the Smoke Alarm Test Button to familiarise your family with the Alarm sound and to practice fire drills regularly with all family members. Draw up a floor plan that will show each member at least 2 escape routes from each room in the house. Children tend to hide when they don't know what to do. Teach children how to escape, open windows, and use roll up fire ladders and stools without adult help. Make sure they know what to do if the alarm goes off.

### 10.2 Limitations of Radio Frequency Signals

Ei Electronics radio communication systems are very reliable and are tested to high standards. However, due to their low transmitting power and limited range (required by regulatory bodies) there are some limitations to be considered:

- (i) Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the house coding.

- (ii) Radio transceiver equipment, such as the Ei405 or Ei405TY, should be tested regularly at least weekly. This is to determine, whether there are sources of interference preventing communication, that the radio paths have not been disrupted by moving furniture or renovations, and so generally protect against these and other faults.

The Ei405 and Ei405TY Transceiver has been tested to EN 300 220-1 V1.3.1 (200-09) in accordance with the requirements of EN 300 220V1.1.1 (2000-09). These tests are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio and television reception. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause such interference, which can be verified by turning the device on and off (by removing the battery (Ei405) or turning off the switches (Ei405TY)), the user is encouraged to eliminate the interference by one or more of the following measures:

- (i) Re-orientate or re-locate the unit
- (ii) Increase the distance between the Ei 405/405TY and the device being affected
- (iii) Consult the supplier or an experienced radio/television technician.

## 11. GETTING YOUR SMOKE ALARM SERVICED

If your Smoke Alarm fails to work after you have read the sections on “Installing your Smoke Alarms” , “Testing and Maintaining your Smoke Alarm” and Troubleshooting your Smoke Alarms”, then contact Customer Assistance at the nearest address given at the end of this leaflet. If it needs to be returned for repair or replacement put it in a padded box with the battery disconnected (Ei405 only). The Ei405TY must be removed from the mounting plate and the switches on the base of the unit moved to the off position – see figure 10. Send it to “Customer Assistance and Information” at the nearest address given on the Smoke Alarm or in this leaflet. State the nature of the fault, where the Smoke Alarm was purchased and the date of purchase.

## 12. FIVE YEAR GUARANTEE (Limited)

Ei Electronics, guarantees this smoke alarm for five years from date of purchase against any defects that are due to faulty materials or workmanship. This guarantee only applies to normal conditions of use and service, and does not include

damage resulting from accident, neglect, mis-use, unauthorized dismantling, or contamination howsoever caused. This guarantee excludes incidental and consequential damage. This guarantee does not cover costs associated with the removal and/or installation of alarms. If this smoke alarm should become defective within the guarantee period, it must be returned to Ei Electronics, with proof of purchase, carefully packaged, and with the problem clearly stated. (see "Getting Your Alarm Serviced"). We shall at our discretion repair or replace the faulty unit.

Do not interfere with the smoke alarm or attempt to tamper with it. This will invalidate the guarantee, but more importantly may expose the user to shock or fire hazards.

This guarantee is in addition to your statutory rights as a consumer.

### 13. TECHNICAL SPECIFICATION

#### **Ei405 Only:**

**Battery:** Replaceable 9 Volt Alkaline Duracell (MN1604, Energizer 522 or Eveready 522).

**Battery Life:** Battery can power unit in standby for over a year.

#### **Ei405TY Only:**

**Battery:** Built-in Lithium Battery.

**Battery Life:** Lasts up to 10 Years.

#### **Ei405 & Ei405TY:**

**Power on Indicator:** Red light flashes every 40 seconds.

**Smoke Sensitivity:** Meets or exceeds requirements of BS5446-1: 2000.

**RF & EMC:** Complies with the requirements of the RTTE Directive Compatibility 1999/5/EC (RF Performance to EN300220-3, EMC to EMC 301489-3).

**Approvals:** Approved to BS5446-1: 2000.

**Humidity Range:** 15% to 95% RH (non-condensing).

**Audible Alarm:** 85dB at 3m (minimum).

**Chamber Fault:** The unit checks the sensing chamber every 40 seconds, and it beeps if a fault is found (without red light flashing at the same time).

**Radio Frequency:** 868.499 MHz (Regulated 1% duty cycle band).

**RF Power:** +5dBm.

**Range:** 150 meters (minimum) in free space.

**Test/Hush Button:** Checks smoke sensor, electronics and horn. Also silences nuisance alarms for 10 minutes and then resets.

**Local Hush Mode:** When test/hush button is pressed only that unit goes into hush (reduced smoke sensitivity) and sends out an alarm cancel signal so that all other smoke alarms will stop sounding. The other alarms will not have reduced sensitivity. The red light will flash every 10 seconds (instead of the normal 40 seconds) on the unit in hush mode.

## RF RECEPTION

**Alarm Signal Reception:** Turns on horn without red light flashing for 60 seconds unless it receives an alarm cancel signal within that period.

**Duration of House Code Mode:** 15 minutes

## RF VISUAL INDICATOR (Blue)

**On Transmission:** Blue LED lights continuously for 1.5 to 3.5 seconds while messages are being transmitted.

**Low Battery Indication:** Unit beeps and red light flashes every 40 seconds. On Ei405TY units the blue light may also flash every 9 seconds.

**Size of System:** A maximum number of 12 units can communicate together on one system (however the range is likely to be the limiting factor in many cases)

**Communication:** All units will communicate together as shipped. After a unit has been house coded it will only communicate with other units house coded at the same time. **House coding is essential to prevent false alarms from neighbouring systems.**

**Entering House Code Mode:** Pressing and holding the House Code switch until the blue light comes on and then releasing puts the smoke alarm into house code mode.

**House Code Mode:** The alarm transmits and receives specific codes. The blue light flashes once every 5 seconds for each unit's code it memorises (including itself).

**Clearing House Codes:** The house codes memorised can be deleted (i.e. the smoke alarms can be uncoded) by pressing and holding the House Code switch on for about 6 seconds. The blue light will come on and then flash slowly to indicate the smoke alarm has been returned to the default factory settings (this also clears the Repeater function).

**Repeater Function:** The smoke alarm receives and then re-broadcasts the various RF signals, so effectively boosting the signal range.

**Activating the Repeater Function:** Press and hold the test button until the alarm sounds and the blue light comes on, then immediately (while the light is on) press and hold the House Code switch until the blue light flashes slowly. The blue light will flash 15 times to indicate that smoke alarm is now a Repeater unit.

**De-activating the Repeater Function:** Press and hold the test button until the alarm sounds and the blue light comes on, then immediately (while the light is on) press and hold the House Code switch until the blue light flashes slowly. The blue light will now flash only 3 times to indicate that the smoke alarm is now no longer a Repeater unit.

## 14. *RadioLINK* ACCESSORIES

### Ei410 - RF REMOTE CONTROL

The Remote Control Ei410 allows you to **test**, **hush** or **locate** RF linked Smoke/Heat Alarms.



### Ei Electronics

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The crossed out wheellie bin symbol that is on your product indicates that this product should not be disposed of via the normal household waste stream. Proper disposal will prevent possible harm to the environment or to human health. When disposing of this product please separate it from other waste streams to ensure that it can be recycled in an environmentally sound manner. For more details on collection and proper disposal, please contact your local government office or the retailer where you purchased this product.



Construction Product Type: **Smoke Alarm Devices**

European Standard: **EN14604:2005**

Certificate of Conformity: **0086-CPD-537430**

MODEL	TYPE
Ei405	Optical Smoke Alarm
Ei405TY	Optical Smoke Alarm

**CE**  
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